

Appendix C: Cumulative Effects

Cumulative Effects Information

Definition

Cumulative impact is the impact on the environment, which results from the incremental impact of an action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor or collectively significant actions taking place over a period of time (40 CFR 1508.7).

Cumulative Effects Analysis

The analysis was guided by the June 24, 2005 memo, Guidance on the Consideration of Past Actions in Cumulative Effects Analysis, Executive Office of the President, Council on Environmental Quality (Executive Office of the President, CEQ 2005). Briefly, the memo states that agencies are to use scoping to determine whether, and to what extent, information about the specific nature, design, or present effects of a past action is useful for the agency's analysis of effects of a proposed action and its reasonable alternatives. "Agencies are not required to list or analyze the effects of individual past actions unless such information is necessary to describe the cumulative effect of all past actions combined" (Executive Office of the President, CEQ 2005). The memo also noted that agencies can generally conduct an adequate cumulative effects analysis by focusing on the current aggregate (or remaining, residual) effects of past actions without delving into the historical details of past individual actions.

To begin the analysis of cumulative effects for the Suiattle ATM Project, the members of the Interdisciplinary Team (ID Team) first considered the direct and indirect effects on the environment that are expected or likely to result from the proposed action and alternatives. Once these effects had been determined, the ID Team then assessed the residual (or still on-going) effects of past actions that are, in the judgment of the resource specialists, relevant, in that they could potentially overlap in time and space with the direct and indirect effects from the Suiattle ATM Project alternatives.

The team then assessed the spatial extent of the effects of the alternatives, resource by resource, to determine if they would add to, modify, or mitigate the overlapping effects of the past actions, present actions, and expected future actions. For each resource, a cumulative effects analysis area was determined; see Chapter 3, project files, and the information that follows in this appendix. The resource specialists then determined if any potential, existing, or residual effects were present from the other identified projects. If there was no overlap in time (that is, any effects to that resource from past, present, and future projects occur at a different time from the alternative's effects), AND no overlap in space (that is, any effects are outside the cumulative effects analysis area for that resource), then the project had no contribution to cumulative effects for that resource.

The initial area of potential cumulative effects for aquatic resources centered on the lower portion of the 5th field Suiattle River drainage, consisting of seven of the ten 6th field drainages. The geographic area was bounded by ridges above the Suiattle and its major tributaries. For wildlife species with larger ranges, the area of potential effect would be larger, and for more site

specific resources the area would be much smaller. Refer to Chapter 3 for specific resource descriptions. The following table lists all of the past, present, or reasonably foreseeable actions in the vicinity of the Suiattle ATM project that may have effects that spatially and temporally overlap with the estimated effects of the proposed Suiattle ATM project, where cumulative effects could occur.

Table C-21. Past, Present, and Reasonably Foreseeable Future Actions for Cumulative Effects Analysis

Activity	Extent	Timing/ Comment
Future Actions		
ERFO Road Repair	Repair 2006 flood damage to Road 26 at MP 6.0	Planned for 2011
ERFO Road Repair	Repair 2006 flood damage to Road 26 at MP 20.8	Planned for 2011
Future timber harvest on private and state lands	Extent is unknown, private and state timber lands to the west of the forest boundary.	On-going
Timber Stand Improvement	Precommercial thinning and release from hardwoods – matrix lands .	On-going
Campground/Rental Maintenance	Buck Creek and Sulphur Cr. campgrounds, Suiattle Guard Station.	2010
Present Actions		
ERFO Road Repair – White Chuck	Repair 2003 and 2006 flood damage to Road 23.	Contract in 2010; Includes decommissioning of upper portion of Road 23.
Suiattle - PCT repairs	New trail bridge over Suiattle and reconstruction of 2-3 mile of Pacific crest trail.	Started in 2009.
ERFO Road Repair	Repair 2006 flood damage to Road 26 at MP 12.6,13.0, and 13.5. Includes reroute using Road 2670.	Contract in 2010.
ERFO Road Repair	Repair 2003 flood damage to Road 26 at MP 14.4, 21.9, and 22.9	Started in 2006.
Road maintenance	Routine road maintenance on open roads in the watershed.	On-going, Short-term sediment with maintained ditches.
Trail maintenance	Routine trail maintenance on accessible trails in watershed	On-going, minor short-term sedimentation
Invasive Plant Treatments	Treatment of known sites in the watershed.	On-going, minor short-term impacts from herbicides.
Past Actions		
ERFO Road Repair	Rd 2660	Completed 2009
Boundary Bridge Repair	Repair bridge across the Suiattle at the 9.9 mile	Constructed in 2009. Some downstream sedimentation estimated
Join Ventures Road Work - 2008	Rd. 2661 – storage treatment	Completed in 2008

Join Ventures Road Work - 2007	Grade and Big Cr. road treatments – storage	Completed in 2007
Suiattle Trail Repairs	Trail relocation along first 2 miles of trail 784.	Construction in 2006. Minor short-term sediment, blasting, no habitat removal
Road Maintenance	Road 26 is brushed every 3 years, grade/blade 2 times/yr. Rock pit maintenance	Short-term sediment with maintained ditches.
Road 25 Closure/Storage	2.5 miles of waterbars and culvert removals in Rd. 25 Decommission of Lime Cr. and Rd. 25 back to Circle Cr.	Completed in 2002. Minor short-term sediment with improved local hydrology.
Road 26 Captain Creek Culvert Replacements	Fish passage improvement at Captain and other creeks	Completed 1998. Increased access to spawn/rearing habitat for coho. Short-term sediment with improved local hydrology.
Instream Treatments	Structures and off-channel projects for spawning and rearing habitats in multiple streams, including Sulphur Creek.	Completed mid-1980s into early 1990s. Many have suffered effects from flooding events. Increased spawning and rearing. Short-term sediment and bedload.
Historical Road Repairs	Multiple fixes from past floods in 1974, 79, 80, 89, 90 96. Replace fill and riprap, clear and replace with larger culverts along Roads 25, 26, other roads.	Short-term sediment with improved local hydrology and fish passage.
Trail Maintenance and Repair	Trail with maintenance work; Circle Peak, Huckleberry, Boulder Lake, Sulphur, Downey, Buck, Suiattle, Green Mtn.	Minor short-term sediment
Invasive Plant Treatments	Green Mt. Horse Pasture, along roads, and rock pits?	Minor short-term impacts from herbicides.
Campground/Rental Maintenance	Buck Creek and Sulphur Cr. campgrounds, Suiattle Guard Station.	Minor short-term sediment
Forest Service Timber Harvest	7810 acres total in WA – 2450 acres 1980 to 1995, 5360 acres 1930 to 1979 mostly by clearcut	Sedimentation, changes in hydrology, removal of riparian vegetation and old growth habitat, reduction of instream wood
Private Land	12,979 acres in WA	Primary activity is timber harvest, mostly in lower part of WA